

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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Art Unit: 2123)
Examiner: H. Jones)
Applicant(s): G. Strumolo et al.)
Serial No.: 09/432,485)
Filing Date: November 1, 1999)
For: PAINT SPRAY PARTICLE TRAJECTORY)
ANALYSIS METHOD AND SYSTEM)

REPLY BRIEF

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Commissioner for Patents
P.O. Box 1450
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Sir:

This Reply Brief is directed to points of argument raised in the Examiner's Answer dated December 5, 2003 for the above-identified application. As to procedural matters, on page 3, the Examiner argues that the Summary of the Invention is not correct. Applicants submit that the Summary of the Invention is correct and the part of the specification recited supports the understanding of the invention. On page 4, the Examiner argues that Appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. Applicants submit that the Examiner is wrong. Applicants, on pages 6 and 7 of the Appeal Brief, specifically state that claims 1 through 4 stand or fall together in regard to each rejection and that claims 5 and 6 stand do not stand or fall together and provide reasons in support thereof on pages 9 through 39 of the Appeal Brief. As such, claims 1 through 4 do not stand or fall together with either claims 5 or 6.

CERTIFICATE OF MAILING: (37 C.F.R. 1.8) I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service with sufficient postage as First Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on February 5, 2004, by Daniel H. Bliss
Daniel H. Bliss

As to substantive matters, on page 11 of the Examiner's Answer, the Examiner argues that the Figures 5A through 5D of Miller et al. '291 are identical to Figures 9A through 9F of the present application and that the Examiner is forced to conclude that the graphical method in the specification is none other than SpraySIM graphical interface in Miller et al. '291. In addition, on page 12, the Examiner argues that even if the Miller et al. '291 SAE paper only describes the results of using a system, the Appellants have admitted that the system was in use for more than one year. Further, on page 14 of the Examiner's Answer, the Examiner argues that the effective date for the claimed invention is that of the instant application, namely 11/1/1999 because the instant claims do not have 112 support in the '300 patent.

Applicants respectfully disagree with the Examiner as to the above arguments. As to the first argument, the Examiner argues that Figures 5A through 5D of Miller et al. '291 are identical to Figures 9A through 9F of the present application and that the Examiner is forced to conclude that the graphical method in the specification is none other than SpraySIM graphical interface in Miller et al. '291. Figures 5A through 5F of Miller et al. '291 were reproduced as Figures 9A through 9F of the present invention in order to facilitate the understanding of the disclosure as it relates to the claimed invention. In Miller et al. '291, the SAE paper merely describes transient CFD simulations of a bell sprayer, but not how to use the bell sprayer or the logic behind its use as it relates to a vehicle as claimed by Applicants. Additionally, in Miller et al. '291, the SAE paper fails to disclose how the vehicle design is introduced, the flow fields calculated, and how one interacts with the system to produce an analysis (and modify the paint spray system for additional analyses). There is no factual basis in the reference relied upon which supports the Examiner's argument to conclude that the graphical method in the specification is none other than SpraySIM graphical interface in Miller et al. '291. Therefore, it is respectfully

submitted that the Examiner has misinterpreted the Miller et al. '291 reference and the rejection under 35 U.S.C. § 102 and 103 is clearly wrong.

As to the second argument, the Examiner argues that even if the Miller et al. '291 SAE paper only describes the results of using a system, the Appellants have admitted that the system was in use for more than one year. Once again, there is no factual basis which supports the Examiner's argument. Applicants have not admitted that the system was in use for more than one year. Applicants have stated that, in Miller et al. '291, the SAE paper merely describes transient CFD simulations of a bell sprayer, but not how to use the bell sprayer or the logic behind its use as it relates to a vehicle as claimed by Applicants. Applicants have also stated that, in Miller et al. '291, the SAE paper only describes the results of using a system, according to the present invention, and details of how the vehicle design is introduced, the flow fields calculated, and how one interacts with the system to produce an analysis (and modify the paint spray system for additional analyses) is not shown. Applicants state that the results are theoretical results based on CFD simulations of a bell sprayer and not that the system, according to the present invention, had been used. Further, in Miller et al. '291, the SAE paper predicts paint spray trajectory, but does not disclose means operable with a user input mechanism to effect placement of a paint spray gun on a display with respect to a CAD model of a vehicle. As such, the Examiner's stated conclusion of the system being actually used for more than one year is wrong and misconstrued. Therefore, it is respectfully submitted that the Examiner has misinterpreted the Miller et al. '291 reference and the rejection under 35 U.S.C. § 102 and 103 is clearly wrong.

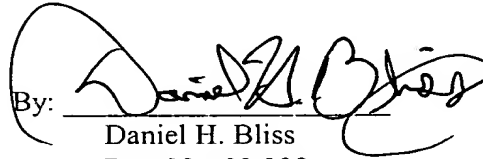
As to the third argument, the Examiner argues that the effective date for the claimed invention is that of the instant application, namely 11/1/1999 because the instant claims do not have 112 support in the '300 patent. Strumolo et al. '300 discloses a particle trajectory analysis system and method for vehicle design having a simulated particle injector placed relative

to a CAD model and computations of particle trajectories carried out with the particles being paint droplets. The present application is a Continuation-In-Part (CIP) of the Strumolo et al. '300 patent. Strumolo et al. '300 does not qualify as prior art to the claimed invention of claims 1 through 6. Specifically, the present application and the Strumolo et al. '300 patent share one or more persons as joint inventors and the present application chains back under 35 U.S.C. § 120 to the application that matured into the Strumolo et al. '300 patent. The present application claims and is entitled to the effective filing date of the common parent application, which is October 19, 1998 under 35 U.S.C. § 120. As a result, Strumolo et al. '300 cannot qualify as prior art under 35 U.S.C. § 102(e).

However, even if Applicants are only entitled to the 11/1/1999 date, Strumolo et al. '300 fails to disclose each and every step of the claimed combination of a method for designing a vehicle using particle trajectory analysis as arranged in the claims and claimed by Applicants. Strumolo et al. '300 lacks spray gun placement code means operable with a user input mechanism to dynamically effect a desired placement of at least one paint spray gun on a display with respect to a desired portion of a CAD model and trajectory determination code means for computing at least one trajectory for a particle stream emanating from the at least one paint spray gun relative to the desired portion of the CAD model for a predetermined set of particle characteristics in a predetermined set of particle external conditions. The Examiner admits on page 9 of the final Office Action that Strumolo et al. '300 does not teach particle trajectories of paint droplets. Further, the present invention accounts for a new external force field to influence the trajectories of the flow, namely the electrostatic field and the dynamics of the present invention are considerably different from the one in Strumolo et al. '300. Therefore, it is respectfully submitted that the Examiner has misinterpreted the Strumolo et al. '300 reference and the rejection under 35 U.S.C. § 102 and 103 is clearly wrong.

Accordingly, it is respectfully requested that the rejection of the pending claims be reversed and that the claims pending in the present application be allowed.

Respectfully submitted,

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